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| 09/922,964 | 08/06/2001 | Paul M. Neugebauer | 1110-WO P99125US1A | 1450 |
| 26562 | 7590 | 11/01/2004 | EXAMINER | |
| BRIDGESTONE AMERICAS HOLDINGS, INC. 1200 FIRESTONE PARKWAY AKRON, OH 44317 | | | MAKI, STEVEN D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1733 | |

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/922,964

Applicant(s)

NEUGEBAUER ET AL.

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-30, 32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-30, 32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claims 20-30 and 32-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 32, the scope and meaning of "said sipes creating a circumferential force on each of said tread blocks" is ambiguous since sipes define a void area, which is incapable of creating a circumferential force. It is also unclear when and under what conditions (loaded tire, rotating tire, etc.) the claimed circumferential force is created. Furthermore, it is unclear if "circumferential force" requires the force to be oriented at 0 degrees with respect to the circumferential direction so as to require the sipes to be oriented at 90 degrees with respect to the circumferential direction. If not, why not?

- 3) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- 4) Claims 20-30 and 32-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 32, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the

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inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is "said sipes creating a circumferential force on each of said tread blocks, said forces extending in opposite directions on opposite sides of the mid-circumferential plane creating an overall moment on the tire to affect tire RAT." (emphasis added). Although the original disclosure describes changing RAT by providing angled sipes in tread blocks, the original disclosure fails to teach that sipes (in sharp contrast to block deformation) creates a circumferential force on each of the tread blocks to obtain the result of " said forces extending in opposite directions on opposite sides of the mid-circumferential plane creating an overall moment on the tire to affect tire RAT." The original disclosure fails to reasonably convey that the sipes per se create a circumferential force.

5) Claims 20-30 and 32-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention..

In claim 32, the subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention (i.e. the non-enabling subject matter) is "said sipes creating a circumferential force on each of said tread blocks, said forces extending in opposite directions on opposite sides of the mid-circumferential plane creating an overall moment on the tire to affect tire RAT." (emphasis added)

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Although the original disclosure describes changing RAT by providing angled sipes in tread blocks, the original disclosure fails to teach that sipes (in sharp contrast to block deformation) creates a circumferential force on each of the tread blocks to obtain the result of "said forces extending in opposite directions on opposite sides of the mid-circumferential plane creating an overall moment on the tire to affect tire RAT.". The original disclosure fails to teach how sipes per se, for example in a block which fails to deform, creates a circumferential force on each of the tread blocks so that the forces extending in opposite directions on opposite sides of the mid-circumferential plane create an overall moment on the tire to affect tire RAT.

6) The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: incorporation of the last three lines from claim 32 into the specification. However, note the above 112 rejections.

7) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Japan '314

9) **Claims 20-23, 26-29 and 32-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Japan '314 (JP 11-240314).**

For a description of Japan '314's disclosure in English, see machine translation of Japan '314. Also see Europe '445 (EP 1072445), which is an English language equivalent to Japan '314. Japan '314 is applied instead of Europe '445 since Japan '314 is available as prior art under 35 USC 102(b) whereas Europe '445 is not.

Japan '314 discloses a pneumatic tire having five rows of **symmetrical blocks**. Sipes are provided in each of the blocks. The sipe is twisted such that one side is slanted in a first direction with respect to the radial plane and the other side is slanted in the opposite direction. The sipes permit the blocks to rotate so that residual self aligning torque due to the cords of the tire can be reduced by the torque generated at the blocks. With respect to the first angle being 2-15 degrees, Japan '314 teaches twisting the sipe so as to define an angle θ of for example 28.1 degrees (see figure 4). The sipe at each end of the block therefore is slanted in opposite directions at the same angle of 14.05 degrees with respect to a radial plane. This angle of 14.05 degrees falls within the claimed range of 2-15 degrees.

As to claim 32, the claimed tire is anticipated by Japan '314's tire. The claimed sipes read on the twisted sipes of Japan '314. Claim 32 fails to exclude a sipe, which is slanted at more than one angle (angle varying for example from 14.05 degrees to 0 degrees and then back to 14.05 degrees).

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As to angled in opposite directions (lines 9-10 of claim 32), each sipe in the blocks on one side of the equatorial plane of the tire has one portion angled opposite the other portion of the sipes in blocks on the other side of the equatorial plane.

As to the opposite circumferential forces creating the overall moment (last three lines of claim 32), Japan '314 teaches that the blocks create a torque for suppressing the SAT due to the cords. This torque is created from opposite forces including the claimed opposite circumferential forces. Claim 32 fails to exclude a block capable of generating a torque.

As to the dependent claims: As to claim 20 (7 degrees), note that the slant of the sipe varies from 14.05 to 0 degrees. As to claim 21, an example sipe depth of 8 mm / 10 mm (80%) is described. As to claims 22 and 23, note the orientation of the sipes shown in figure 3. Claim 22 (substantially perpendicular) does not appear to require a sipe orientation different from that shown in figure 3. As to claim 26, the sipes may be zigzag (figure 7). As to claims 27 and 28, note the use of five block rows. As to claim 29, Japan '314 teaches that the sipe may be a closed sipe. See for example figure 12 embodiment. Also, partially across does not appear to exclude a both end opening sipe (a sipe which extending entirely across a block also must extend partially across the block). As to claim 33, note the use of five symmetrically disposed block rows.

10) Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '314 (JP 11-240314).

As to claims 24 and 25, it would have been obvious to provide Japan '314's sipes with the claimed width since (a) Japan '314 teaches that the sipes close in the ground

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contact patch - the sipes therefore being very narrow due to the walls being able to contact each other and optionally (b) it is taken as well known / conventional per se in the tire tread art to provide sipes with a width of 0-2 mm.

11) **Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '314 (JP 11-240314) as applied above and further in view of Moseley (US 5669993) or van der Meer et al (US 5538060).**

As to claim 30, it would have been obvious to provide lateral grooves of Japan '314 with the claimed generally V-shaped configuration in view of either Moseley's teaching to provide blocks, which like those of Japan '314 rotate to reduce SAT, with v-shaped edges which one of ordinary skill in the art would readily understand are defined by V-shaped grooves or van der Meer et al's suggestion to use v shaped grooves between shoulder blocks in order to improve traction for off road use.

Japan '715

12) **Claims 20-29 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '715 (JP 10-138715) in view of Japan '314 (JP 11-240314).**

Japan '715 discloses a tire having a tread including two block rows comprising **symmetrical blocks** having sipes. The sipes clearly extend only partially across the block. In figure 3, one sipe is formed in each wall surface 10 and two of the sipes are perpendicular to the circumferential direction. The sipes are inclined with respect to the radial direction and are arranged about the block such that when the block is compressed a torque is created which reduces residual aligning torque caused by lateral force resulting from internal structure of the tire. Since each block has two sipes

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inclined in opposite directions, each block of one block row has as sipe, which is inclined opposite to a sipe in a block of the other block row. Two or more sipes may be formed in a wall surface 10 of the block. See paragraph 25 of machine translation.

Japan '715 does not recite that the angle at which the sipes are inclined with respect to the radial direction is 2-15 degrees. However, it would have been obvious to one of ordinary skill in the art to incline the sipes of Japan '715 at an angle between 2 and 15 degrees with respect to the radial plane as set forth in claim 32 since (1) Japan '715 teaches inclining the sipes such that the block can rotate when compressed and thereby generate a torque to offset SAT and (2) Japan '314 teaches that a block having sipes may rotate so as to generate a torque for reducing SAT when the sipes are inclined at a maximum angle of 14.05 degrees with respect to the radial plane. Hence, one of ordinary skill in the art would readily appreciate from a consideration of Japan '715 and Japan '314 as a whole that an angle of 2-15 degrees with respect to the radial direction can and should be used for Japan '715's sipes to obtain the desired result of generating a torque for reducing RSAT.

As to angled in opposite directions (lines 9-10 of claim 32), the sipes in the blocks in one row on side of the equatorial plane of the tire are angled opposite sipes in blocks of a block row on the other side of the equatorial plane. Claim 32 fails to exclude oppositely angled sipes in each block.

As to the opposite circumferential forces creating the overall moment (last three lines of claim 32), Japan '715 teaches using the sum of the torques to offset the residual lateral force. See paragraph 23 of machine translation. This torque is created from

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opposite forces including the claimed opposite circumferential forces. Claim 32 fails to exclude a block capable of generating a torque. More specifically, one of the claimed circumferential forces reads on the force F generated by deformation of a block in the left intermediate block row on the side of the block having inclined sipe 9C and the other circumferential force reads on the force F generated by deformation of the block on the right intermediate block row on the side of the block having inclined sipe 9D.

As to the dependent claims: As to claim 20, it would have been obvious to one of ordinary skill in the art to incline the sipes of Japan '715 at an angle of 7 degrees with respect to the radial plane since (1) Japan '715 teaches inclining the sipes such that the block can rotate when compressed and thereby generate a torque to offset SAT and (2) Japan '314 teaches that a block having sipes may rotate so as to generate a torque for reducing SAT when the sipes are inclined at a maximum angle of 14.05 degrees with respect to the radial plane.. As to claim 21, note the sipe depth shown in figure 3. As to claims 22-23, note the angle with respect to the circumferential direction shown by either figure 2 or 3. In any event: As to claim 22, it would have been obvious to one of ordinary skill in the art to incline Japan '715's sipes substantially perpendicular to the mid-circumferential plane of the tire since (1) Japan '715 teaches orienting two of the sipes parallel to the lateral grooves separating the blocks and (2) it is well known to use lateral grooves oriented at 90 degrees with respect to the tire EQ as evidenced for example by Japan '314. The sipe width in claims 24 and 25 would have been obvious in view of Japan '715's teaching to use sipes having a width less than 1.5 mm. As to claim 26, it would have been obvious to use the claimed zigzag shape for Japan '715's

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sipes since Japan '314 suggests using either a straight shape or a zigzag shape for sipes. As to claim 27, it would have been obvious to use Japan '715's sipes in shoulder blocks since Japan '314 suggests using sipes for affecting RSAT in all blocks of a tread pattern. As to claim 28, Japan '715 teaches placing the sipes in intermediate blocks. As to claim 29, Japan '715 clearly shows the sipes extending only partially across the block. As to claim 33, Japan '715's intermediate block rows are symmetrically disposed.

Remarks

13) Applicant's arguments with respect to claims 20-30 and 32-33 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 8-9-04 have been fully considered but they are not persuasive.

Applicant argues that applicant's tread block and sipe configuration do not provide torque on each of the blocks as in Japan '715, but create a circumferential force F1 or F2 as shown in the copies of figures 1 and 2 attached to the response filed 8-9-04. This argument is not commensurate in scope with the claims and is therefore not persuasive. All of the claims read on a block and sipe configuration which provides torque on each of the blocks as in Japan '715. None of the claims require that the forces F1 and F2 as described by applicant are the *only* forces generated by the blocks.

Applicant argues that the sipes do not produce a self compensating torque to result in zero torque or eliminate RAT of the tire tread. This argument is not commensurate in scope with the claims and is therefore not persuasive since "affect tire RAT" reads on eliminating tire RAT.

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14) No claim is allowed.

15) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply is filed

within TWO MONTHS of the mailing date of this final action and the advisory action is

not mailed until after the end of the THREE-MONTH shortened statutory period, then

the shortened statutory period will expire on the date the advisory action is mailed, and

any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date

of the advisory action. In no event, however, will the statutory period for reply expire

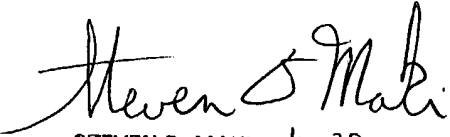
later than SIX MONTHS from the date of this final action.

16) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
October 28, 2004


STEVEN D. MAKI 16-28-04
PRIMARY EXAMINER
~~GROUP 1300~~
Av 1733